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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/786,264 | 02/25/2004 | Robert A. Boger | P1415US02 | 2426 |

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| EXAMINER |
|---|
| CHOW, JEFFREY J |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2628 | |

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/786,264 | BOGER, ROBERT A. |
| | Examiner | Art Unit | |
| | Jeffrey J. Chow | 2628 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>20 March 2006</u>.
2a)☐ This action is **FINAL**.     2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) <u>1-37</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-37</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

## DETAILED ACTION

### *Terminal Disclaimer*

The terminal disclaimer filed on 20 March 2006 disclaiming the terminal portion

of any patent granted on this application which would extend beyond the expiration date

of any patent granted on Application Number 09/954,889 has been reviewed and is

accepted. The terminal disclaimer has been recorded.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 – 3, 8, 9, 12 – 14, 23, 24, 27 and 28 are rejected under 35 U.S.C. 103(a)

as being unpatentable over Song et al. (US 6,046,721) in view of Iwaki (US 6,567,097)

and Ersoz et al. (US 5,287,189).

Regarding claim 1, Song describes a display that is used to display both a non-

interlaced computer signal and an interlaced television signal. The display automatically

configures itself to the source of the signals applied to the display, column 9 line 47 to

column 10 line 26. The display also responds to user input via buttons S101 and S102 of

figure 8. Thus, the user commands the display to be in one mode or another by having

either the computer send a display signal to the display or by pressing the switches.

Figure 9A shows a flowchart that describes the display as selecting one of several VGA

(non-interlaced) specifications as well as SVGA, PAL and NTSC (interlaced). Newly

added claims 21 and 22 are fully taught by Song because at column 9 lines 47-54 Song

describes in the alternative the PAL mode, the NTSC mode and the VGA mode and

because switch 7 when switched to interlaced signal does not let the noninterlaced

computer signal to pass.

The following detailed analysis of the claims illustrates why Song anticipates applicants

claimed invention.

| Pending claim 1 | Song et al., U.S. Patent No. 6,046,721 |
|---|---|
| A display apparatus for use with a host computer system, the display apparatus comprising circuitry allowing an interlaced mode of operation and a noninterlaced mode of operation, the display apparatus comprising: | Song describes a display that is used to display both a non-interlaced computer signal and an interlaced television signal. The display automatically configures itself to the source of the signals applied to the display, column 9 line 47 to column 10 line 26. |
| a screen, | CRT 4 |
| said screen operable to display visually detectable output from the host computer system when operating in the noninterlaced mode of operation and | Column 1 lines 5-8 and column 9 line 54. |
| operable to display a television compatible signal when operating in the interlaced mode of operation; | Column 1 lines 5-8 and column 9 line 53. |
| a communication channel between said host computer system and said display apparatus, | The VGAFP line (figure 1) is a communication channel between the computer and the display apparatus. |

| the communication channel for transmitting commands from said host computer system to said display apparatus; and | Column 9 lines 47-67 and figure 9A describes determining the frequency and polarity of the horizontal and vertical sync signals (VGAFP and TVFP) from the computer and TV source. Clearly when VGAFP is present the computer is communicating the presence of a display signal to the monitor (see circuit of figure 1) and thus commanding the monitor to synchronize to the computer display signal. |
|---|---|
| a microprocessor for receiving commands from said host computer system, | MCU 9 performs the program illustrated in figure 9A and described at column 9 lines 47-67. |
| said microprocessor comprising control logic for switching said display apparatus between said interlaced and noninterlaced modes of operation in response to said commands. | |

Song did not expressly disclose microprocessor comprising control logic for switching said display apparatus between said interlaced and noninterlaced modes of operation in response to said commands, but Song did disclose MCU 9 and the program of figure 9A switches the display from displaying television display signals (interlaced) and computer display signals (non interlaced). Iwaki discloses a MUX that switches between interlace and non-interlace modes (Figure 1). It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Song's system to have a multiplexer that receives a command to switch between interlace and non-interlace modes. One would be motivated to do so because this allows the correct modes for the video to be displayed. Song also did not expressly disclose overlay windows. Ersoz discloses a 4x3 video being overlaid on top of a 16x9 video (Figure 1(c)). It would have been obvious for one of ordinary skill in the art at the time of the invention to further modify Song's system to include overlay windows. One would be motivated to do so because this provides picture-in-picture options and the viewing of multiple desired data.

Claim 2:

| Pending claim 2 | Song et al., U.S. Patent No. 6,046,721 |
|---|---|
| A display apparatus of claim 1, | See the above analysis of claim 1. |
| wherein said interlaced mode of operation supports NTSC input. | Figure 9A shows a NTSC system control MOD5 decision block and column 9 lines 53-54 describes an NTSC mode. |

Claim 3:

| Pending claim 3 | Song et al., U.S. Patent No. 6,046,721 |
|---|---|
| A display apparatus of claim 1, | See the above analysis of claim 1. |
| wherein said noninterlaced mode of operation supports at least one of a computer graphics mode input, VGA input and SVGA input. | Column 3 line 20 describes VGA. |

Claim 13:

| Pending claim 13 | Song et al., U.S. Patent No. 6,046,721 |
|---|---|
| A computer system comprising: | Figure 1 |
| a host computer system including: | Computer C |
| a processor; | Computers have processors which allow the computer to compute. |
| a memory coupled to said processor; | Computers have memory which assist the computer to compute. |
| a video controller coupled to said processor and said memory; and | Computer C outputs VGA, thus, inherently it has a video controller coupled to the processor and memory. |
| a display apparatus coupled to a video controller of the host computer system, | The remainder of figure 1 not with computer C and Television TV is the display apparatus. |
| the display apparatus comprising circuitry allowing an interlaced mode of operation and a noninterlaced mode of operation, the display apparatus comprising: | Song describes a display that is used to display both a non-interlaced computer signal and an interlaced television signal. The display automatically configures itself to the source of the signals applied to the display, column 9 line 47 to column 10 line 26. |
| a screen, | CRT 4 |
| said screen operable to display visually detectable output from the host computer system when operating in the noninterlaced mode of operation and operable to display a television compatible signal when operating in the interlaced mode of operation; | Column 1 lines 5-8 and column 9 line 54. |
| a communication channel between said host computer system and said display apparatus, | The VGAFP line (figure 1) is a communication channel between the computer and the display apparatus. |

| the communication channel for transmitting commands from said host computer system to said display apparatus; and | Column 9 lines 47-67 and figure 9A describes determining the frequency and polarity of the horizontal and vertical sync signals (VGAFP and TVFP) from the computer and TV source. Clearly when VGAFP is present the computer is communicating the presence of a display signal to the monitor (see circuit of figure 1) and thus commanding the monitor to synchronize to the computer display signal. |
|---|---|
| a microprocessor for receiving commands from said host computer system, | MCU 9 performs the program illustrated in figure 9A and described at column 9 lines 47-67. |
| said microprocessor comprising control logic for switching said display apparatus between said interlaced and noninterlaced modes of operation in response to said commands. | |

Song did not expressly disclose microprocessor comprising control logic for switching said display apparatus between said interlaced and noninterlaced modes of operation in response to said commands, but Song did disclose MCU 9 and the program of figure 9A switches the display from displaying television display signals (interlaced) and computer display signals (non interlaced). Iwaki discloses a MUX that switches between interlace and non-interlace modes (Figure 1). It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Song's system to have a multiplexer that receives a command to switch between interlace and non-interlace modes. One would be motivated to do so because this allows the correct modes for the video to be displayed. Song also did not expressly disclose overlay windows. Ersoz discloses a 4x3 video being overlaid on top of a 16x9 video (Figure 1(c)). It would have been obvious for one of ordinary skill in the art at the time of the invention to further modify Song's system to include overlay windows. One would be motivated to do so because this provides picture-in-picture options and the viewing of multiple desired data.

Claim 14:

| Pending claim 14 | Song et al., U.S. Patent No. 6,046,721 |
|---|---|
| A computer system of claim 8, | |
| Wherein said noninterlaced mode of operation supports at least one of computer graphics mode input, VGA input and SVGA input. | Column 3 line 20 describes VGA. |

Regarding claims 2 and 3, claims 2 and 3 are fully taught by Song because at column 9 lines 47-54 Song describes in the alternative the PAL mode, the NTSC mode and the VGA mode and because switch 7, when switched to interlaced signal, does not let the noninterlaced computer signal to pass.

Regarding claim 9, Song teaches a display apparatus of claim 1, wherein the command is a display mode change command (since the horizontal and vertical sync signals control whether the TV monitor is in the interlaced mode or the non interlaced mode they are effectively a display mode change command).

Regarding claim 27, Song teaches a display apparatus of claim 27, wherein the command is sent over a data port (since the claim does not define a data port then any port that conveys the display mode change command is a data port).

Regarding claim 8, claim 8 adds to claim 1 wherein said interlaced mode of operation supports Sequential a Memoire (SECAM) input. This TV standard is one of two standards used in Europe the other being PAL. Song teaches setting the monitor into the PAL mode but does not explicitly teach setting the monitor into the SECAM mode. Since the SECAM standard is old (1967) and well known (used in France and Eastern Europe) it would have been obvious to one of ordinary skill in the at the time of applicants invention to select in Song's system the SECAM standard since Song selects another European standard the PAL standard (western Europe and Australia) in addition to the NTSC standard and computer standards, thus, allowing the modified system to display video from a greater number of regions of the world.

Regarding claims 12 and 28, Ersoz discloses PIP (Figure 1(f)), which reads on the

claimed overlay window is enabled as at least one of a picture-in-picture (PIP) and a

picture-on-picture (POP).

Regarding claim 23 and 24, claims 23 and 24 are similar in scope as to claims 2

and 9, thus the rejections for claims 2 and 9 hereinabove is applicable to claims 23 and

24.


Claims 4 – 7, 15 – 18, and 29 –37 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Song et al. (US 6,046,721) in view of Iwaki (US 6,567,097) and Ersoz

et al. (US 5,287,189) and York (US 5,850,340).

Regarding claims 4 and 15, claim 4 adds to claim 1 wherein the microprocessor

receives at least one command from said host computer system, the command suitable for

controlling a television function of the display apparatus from the host computer system,

wherein the television function includes at least one of changing a channel, volume

adjustment and picture adjustment. Claim 15 adds the same limitations to claim 13.

Song does not teach controlling at least one of changing a channel, volume adjustment

and picture adjustment of the display apparatus in response to computer commands.

York teaches changing a channel of the display apparatus in response to computer

commands at column 1 lines 34-48, column 6 lines 30-33, and  column 8 lines 40-44,

controlling volume adjustment at column 8 line 43, muting is volume adjustment, and

controlling picture adjustment at column 1 lines 34-35 since to fully control a television

is to control picture adjustment such as brightness, contrast, color, ect.

It would have been obvious to one of ordinary skill in the art at the time of applicants invention to modify Song in order for Song's display to receive computer commands that control at least one of changing a channel, volume adjustment and picture adjustment of the display apparatus because this is a user friendly approach since the computer displays computer generated images on the television monitor it would be easier for the user to control the television from the computer rather than to leave the computer's input devices and retrieve the television's remote control or use the television's control buttons.

Regarding claims 5 and 16, claim 5 adds to claim 1 wherein the microprocessor receives at least one command from said host computer system, the command suitable for controlling a television function of the display apparatus from the host computer system, wherein the television function includes at least one of selecting a video source, brightness, contrast, vertical and horizontal sizing and positioning, on/off (rest/resume), refresh rate, resolution and color temperatures. Claim 16 adds the same limitations to claim 13.

Regarding claims 29 and 34, claims 29 and 34 are independent claims that have been amended to include limitations similar to claims 5 and 16. Computer system claim 34 is similar to computer system claim 16 written in independent form. Method of operating a computer system claim 29 is the method version of claim 16 written in independent form. Song does not teach controlling at least one of selecting a video source, brightness, contrast, vertical and horizontal sizing and positioning, on/off (rest/resume), refresh rate, resolution and color temperatures of the display apparatus in response to computer commands. York teaches selecting a channel (video source) of the display apparatus in response to computer commands at column 1 lines 34-48, column 6

lines 30-33, and column 8 lines 40-44, and controlling picture adjustment at column 1

lines 34-35 since to fully control a television is to control television features such as

brightness, contrast, vertical and horizontal size, on/off, and color, ect. It would have

been obvious to one of ordinary skill in the art at the time of applicants invention to

modify Song in order for Song's display to receive computer commands that control at

least one of selecting a video source, brightness, contrast, vertical and horizontal sizing

and positioning, on/off (rest/resume), and color temperatures of the display apparatus

because this is a user friendly approach since the computer displays computer generated

images on the television monitor it would be easier for the user to control the television

from the computer rather than to leave the computer's input devices and retrieve the

television's remote control or use the television's control buttons.

Regarding claim 6 and 17, claim 6 adds to claim 5 wherein the television function

feature of the display apparatus is controlled from the host computer system while the

display apparatus is in an interlaced mode of operation. Claim 17 adds the same

limitations to claim 13. The above combination of Song and York teaches these

limitations since the interlace mode of operation is the TV mode of operation which York

controls from the computer.

Regarding claim 7, claim 7 adds to claim 1 wherein the microprocessor is suitable

for switching said display apparatus between said interlaced and noninterlaced modes of

operation. Song teaches this at column 9 lines 47-54, and it is known that NTSC is

interlaced and VGA is noninterlaced.

Regarding claims 30 and 35, claim 30 adds to claim 29 wherein said interlaced mode of operation supports NTSC input. Claim 35 adds the same limitations to claim 34. Song teaches NTSC input at column 8 line 63 and column 9 lines 24 and 53.

Regarding claim 31, claim 31 adds to claim 30 wherein said display apparatus is transitioned to said second mode of operation from said first mode of operation, a video signal from a video controller in said first mode is not displayed by said display apparatus. Song teaches this since when the display apparatus is transitioned from interlaced, TV, to noninterlaced, computer, the interlaced signal is not displayed by the display apparatus.

Regrarding claim 32, claim 32 adds to claim 30 wherein the mode change command is sent from the computer system via the communication channel. Song teaches this when the horizontal and vertical sync signals sent from the computer to the display apparatus command the display apparatus to transition from interlaced to noninterlaced mode of operation when the display apparatus is in the interlaced mode of operation when the computer initially sends the sync signals.

Regarding claim 18, claim 18 is similar in scope as to claim 31, thus the rejection for claim 31 hereinabove is applicable to claim 18.

Regarding claim 36, the combination of Song's, Iwaki's, and Ersoz's systems reads on claim 36.

Regarding claims 33 and 37, Ersoz discloses PIP (Figure 1(f)), which reads on the claimed overlay window is enabled as at least one of a picture-in-picture (PIP) and a picture-on-picture (POP).

Claims 10, 11, 19 – 22, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al. (US 6,046,721) in view of Iwaki (US 6,567,097) and Ersoz et al. (US 5,287,189) and York (US 5,850,340) and McGraw (US 6,300,980).

Claim 19 adds to parent claim 13 wherein the video controller receives a signal from the display apparatus. Song does not describe having the video controller of the computer receive a signal from the monitor. Applicant describes the video controller as being capable of receiving two different types of signal from the display apparatus. The first indicates the current operational mode of the display to the host system after polling by the host system. The second is analog video sent to the video capture circuitry 226 of video controller 202. This claim broadly covers both signals, thus, a prior art reference showing one of the two is sufficient to reject the claim. McGraw teaches at column 16 lines 43-60 polling the monitor and having the monitor respond to the polling by sending a signal to the computer system. The portion of the computer that receives this signal is broadly a part of the video controller since this signal controls the video output by the video controller. Column 14 line 65 to column 15 line 7. Thus, it would have been obvious to one of ordinary skill in the art at the time of applicants invention to modify Song to allow Song to receive a signal from the display apparatus so Song's system will know the capabilities of the display apparatus in order to ensure proper video signals are sent to the display apparatus.

Regarding claims 20 – 22, Iwaki discloses a composite video signal and s-video signal (column 7, lines 34 – 49), which reads on the claimed video signals is a composite signal and S-video signal.

Regarding claims 10, 11, 25, and 26, Song does not teach sending the commands which determine the mode the monitor operates, interlaced mode or noninterlaced mode, over serial or parallel busses. McGraw teach at column 2 line 3 a RS 232 serial bus and at lines 35-37 states other types of digital communication links may be used. Thus, it would have been obvious to one of ordinary skill in the art at the time of applicants invention to modify Song to allow Song to send a display mode command from the display apparatus on serial or parallel busses to the display apparatus so display mode commands, which are digital, need not be derived from the horizontal and vertical sync signals, which are analog, thus simplifying the transmission and reception of the display mode commands.

## *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey J. Chow whose telephone number is (571)272-8078. The examiner can normally be reached on Monday - Friday 10:00AM - 5:00PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571)-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JJC

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